Random Walk

Galileo Update

Galileo, the JPL spacecraft currently en route to Jupiter, has been busy lately. On July 12, the spacecraft released a 339-kilogram probe, which is now traveling the remaining 82 million kilometers to Jupiter on its own. Upon arrival, the probe will parachute down through the brightly colored cloud layers that form the planet's visible surface, while sampling the atmosphere's composition and measuring its winds and lightning storms. As much as 75 minutes' worth of data will be relayed to the spacecraft for transmission to Earth. Meanwhile, on July 27, Galileo fired its main engine to maneuver onto its own approach path. Since then, it has been traveling through the most intense interplanetary dust storm on record, with peak counts of up to 20,000 particles per day compared to the norm of one particle every three days. Both probe and orbiter are slated to arrive at their destinations this December 7.

Watson Lectures Set for Autumn

The Fall 1995–Winter 1996 Earnest C. Watson Lecture Series will span 35 orders of magnitude, from the most distant quasars to the atom-sized world of nanotechnology. On the calendar: *Friday, September 22* (note the unusual day—all the other Watson lectures will be on Wednesdays, as per custom): "Science with the Keck Telescope"—S. George Djorgovski, associate professor of astronomy; *October 11*: "Heart Attack or Heartburn: New Chemical Diagnostics that Make the Call"—Thomas J. Meade, senior research fellow in biology; *November 15*: "The Caltech Electronic Nose Project"—Nathan S. Lewis (BS, MS '77), professor of chemistry; *January 10*: "Global Climate, Mass Extinctions, and the Fallout of Extraterrestrial Matter to the Earth"—Kenneth Farley, assistant professor of geochemistry; and *January 24*: "The Hopes (Amidst the Hype) of Nanotechnology"—Michael L. Roukes, associate professor of physics.

All lectures are at 8:00 p.m. in Beckman Auditorium; admission is free.

Simon Chairs Biology

On July 1, Mel Simon, the Biaggini Professor of Biological Sciences, became the chair of the biology division, succeeding John Abelson, the Beadle Professor of Biology, who is stepping down after six years of service.

Simon, who earned his BS in chemistry from the City College of New York and his PhD in biochemistry from Brandeis University, studies how organisms detect and respond to chemical changes in the environment—the mechanisms of sensory-cell function, and the biological circuits that process the resulting information.

A Summer's Harvest of Honors and Awards

The 1995 ASCIT (Associated Students of Caltech) Teaching Awards, given for excellence in teaching at the undergraduate level, went to Paul Dimotakis, Northrup Professor of Aeronautics and Professor of Applied Physics; Barbara Imperiali, associate professor of chemistry; Jeremy Kahn, assistant professor of mathematics; David Rutledge, professor of electrical engineering; and Jonas Zmuidzinas, assistant professor of physics. And this year for the first time, ASCIT also gave honorable mentions—to Jim McCarthy, assistant professor of astronomy; Moshe Sluhovsky, instructor in history; and Alan Weinstein, associate professor of physics.

The Graduate Student Council considered both classroom instruction and mentoring in presenting GSC Teaching Awards to Yaser Abu-Mostafa, professor of electrical engineering and computer science; Chris Brennen, professor and executive officer for mechanical engineering; George Rossman, professor of mineralogy; and Edward Zukoski, professor of jet propulsion and mechanical engineering, emeritus. Outstanding Teaching Assistant Awards went to Patrick Chuang of environmental engineering and Sanjoy Mahajan of physics.

Professor of Geophysics Tom Ahrens (MS '58) will recieve the 1995 Arthur L. Day Medal and be given a life fellowship in the Geological Society of America, in honor of his "outstanding contribution to geologic knowledge through the application of physics and chemistry to the solution of geologic problems."

Pamela Bjorkman, associate professor of biology, and associate investigator for Howard Hughes Medical Institute, has won the Paul Ehrlich Prize for her research into cancer and AIDS, an award she is sharing with two other scientists.

Thomas Caughey, Hayman Professor of Mechanical Engineering, has been named the 1995 recipient of the J. P. Den Hartog Award by the American Society of Mechanical Engineers for "lifetime contributions to the teaching and practice of vibration engineering."

Professor of Computer Science Mani Chandy has been chosen to receive the 1996 Koji Kobayashi Computers and Communications Award from the Institute of Electrical and Electronics Engineers.

William Johnson, Mettler Professor of Engineering and Applied Science, will receive the 1996 William Hume-Rothery Award from the Minerals, Metals & Materials Society, in recognition of his contributions to the science of alloys.

Professor of Physics Harvey Newman and an international team of physicists working with him on the MARK J experiment have been awarded a special prize by the European Physical Society "for establishing the existence of the gluon." Theirs was the first direct observation of gluons, the fundamental quanta responsible for binding together quarks (the basic building blocks of matter) within more complex particles such as pions, kaons, protons, and neutrons.

Dinakar Ramakrishnan, professor of mathematics, has been inducted into the Johns Hopkins Society of Scholars. Ramakrishnan specializes in algebraic number theory and algebraic geometry.

Assistant Professor of Biology Erin Schuman has been named a 1995 Pew Scholar by the Pew Scholars Program in the Biomedical Sciences. (See page 18 for a description of Schuman's research.)

Edward Stone, vice president, director of JPL, and Morrisroe Professor of Physics, has been awarded a NASA Outstanding Leadership Medal.

Professor of Electrical Engineering P. P. Vaidyanathan has been named the recipient of the 1995 Frederick Emmons Terman Award, sponsored by Hewlett-Packard and presented by the American Society for Engineering Education.

Ahmed Zewail, Pauling Professor of Chemical Physics and Professor of Physics, has received the Order of Merit, First Class, from Egyptian president M. Hosni Mubarak, an honor akin to knighthood in Britain. Zewail, born and educated in Egypt but now an American citizen, is the first nonresident of Egypt to be so honored. Zewail also won the Leonardo da Vinci Award of Excellence, for achievements of great international significance. An international jury selected him and two others for the award, which is sponsored by the Moët Hennessy–Louis Vuitton Foundation of France.